

Claims

1. A seeding machine comprising:

a frame having a center frame section and left and right wing frame sections, the frame having a planting configuration wherein the left and right wing frame sections extend transversely from the center frame section and a transport configuration wherein the left and right wing frame sections extend perpendicular to the center frame section;

the center frame section and the left and right wing frame sections each have a hollow toolbar forming a pneumatic manifold;

individual planting units are mounted to the toolbars, each planting unit comprises a pneumatic seed meter and a furrow opener;

the pneumatic manifold of the center frame section is pneumatically coupled to each of the left and right wing frame sections by a resilient bell that forms a closed pneumatic path between the center frame section and the left and right wing frame sections when the frame is in its planting configuration, the pneumatic manifolds are pneumatically coupled to the pneumatic seed meters by air hoses.

2. The seeding machine as defined by claim 1 further comprising a forwardly extending draw bar extending from the center frame section.

3. The seeding machine as defined by claim 2 wherein the left and right wing frame segments are folded forwardly from their planting configuration to their transport configuration along side the draw bar.

4. A seeding machine as defined by claim 3 wherein each toolbar comprises a main toolbar and a vertically displaced parallel secondary bar that together form a truss.

5. The seeding machine as defined by claim 4 wherein the pneumatic manifolds are formed in the secondary bars.

6. The seeding machine as defined by claim 1 wherein the secondary bars are provided with a series of nipples corresponding to the individual planting units and the air hoses are coupled to the nipples.

7. The seeding machine as defined by claim 6 wherein the resilient bell has a circular rim.

8. The seeding machine as defined by claim 7 wherein the support bar of the center frame section is provided with left and right openings and the support bars of the left and right wing frame sections are provided with the resilient bells.

9. The seeding machine as defined by claim 8 wherein the openings of the support bar of the center frame section are provided with flat plates which engage the circular rims of the resilient bells when the frame is in its planting configuration.

10. The seeding machine as defined by claim 9 further comprising vacuum pumps that are mounted to the wing frame sections and pneumatically coupled to the support bars of the wing frame sections.